**Walmart Retail Analysis**

**Introduction and Background:**

The actual data that may be utilized to learn about sales forecasting and analysis is contained in this dataset. To forecast Walmart's future, we can determine the variables influencing sales and create time series models. Our main goal is to project Walmart sales using past data that is already available and the identification of relevant components. For retailers to concentrate on developing special offers that boost sales and enhance revenue, this study also attempts to discover whether sales are generally greater during holidays like Christmas and Thanksgiving than on non-holiday days. The study's attempt to comprehend consumer purchasing patterns based on regional and departmental sales is also a key component.

**Objective and Goals:**

Our main learning objective with this project is to be able to forecast sales and determine the factors that impact the sales. Our goal is to analyze purchasing patterns from the dataset and develop time series models on that basis which will be helping retailers with the process of developing promotions that result in sales boost and are further optimized based on the demographics of the area as well as taking into consideration the time of the year. There are many questions that can be addressed with the given data such as Does this product solve a key consumer need? Which store will have the maximum amount of sale? Which store will have a good quarterly growth rate? How much will there be an increase in the sales during holiday seasons?

**Data Story:**

Map

Description automatically generated

The above map chart illustrates the total quantity of sales in different states based on population from 2012 to 2015. As can be seen, California has the highest annual sales volume when compared to other states. California had the largest number of sales in 2012, with $359,496.89. In this graphic, we used two data sets.

Graphical user interface, text, application, email

Description automatically generated  
 The chart above depicts the largest order volumes for various things such as furniture, office supplies, and technology. These three product categories each have their own sub-categories. Office furnishing has the biggest number of orders in the furniture category, while Bookcases has the lowest (19,924 and 4,810 respectively). Similarly, in the office supplies category, paper has the largest order amount while scissors, rulers, and trimmers have the lowest. In the Technology category, telephones and communications receive the most orders, while copiers and fax machines receive the least (22,345 and 2104 respectively).

Graphical user interface

Description automatically generated

Walmart's delivery expenses are seen in the above bar chart. They provide three shipping options: Express Air, Regular Air, and Delivery Truck. The significant amount of money spent on delivery truck for delivering goods is $50,400.73, as contrasted to $7,578.49 for Express Air.

Graphical user interface, application

Description automatically generated

The graph above represents the average amount of sales from 2012 to 2015 and estimates the average number of sales from 2016 to 2019. As seen in the above chart, the average sales for each month of each year are shown. Every year, the average sales volume is greater in November and December. In addition, the predicted chart reveals that the average monthly sales are higher in December from 2016 to 2019.

Graphical user interface, text, application, email

Description automatically generated

In the above chart it indicates the executive overview profitability where its shows the average product price, average sales of goods and average profit.

Chart, treemap chart

Description automatically generated

The heat map above demonstrates the product base margin and profit in several product categories. Telephone and communication subcategory has the largest base margin and profit in the Technology category (500.4 and $307,708.94, respectively). Pens and art materials, on the other hand, have the lowest base margin and profit in the office supplies category, with 325.5 and $7,057.18 respectively. When comparing these three areas, Technology has the greatest total base margin and profit.

Chart, bar chart

Description automatically generated

The above bar graph indicates the profit proportion in various client categories. As we can see, corporations have the biggest amount of profit, while consumers have the lowest proportion of profit. House Office and Small Business, on the other hand, have a comparable profit share. Different colors are used to indicate each section.

**Dashboard:**

Graphical user interface, application, website

Description automatically generated

The above dashboard shows the Walmart Retails Analysis. In this dashboard we used maps chart, line chart, bar chart and head map. By using these different types of charts to analyze the average of sales, profit, and product price. In the first graphic on the left shows the overall quantity of sales in different states based on population. From 2012 through 2015, California had the greatest number of sales in each of the four years. However, the lowest number of sales in states varies from year to year. When we click on different cities, the average sales, profit, and product price changes based on their yearly sales.

On the second graph it shows the average amount of sales from 2012 to 2015 and estimates the average number of sales from 2016 to 2019. As seen in the above chart, the average sales for each month of each year are shown. Every year, the average sales volume is greater in November and December. In addition, the predicted chart reveals that the average monthly sales are higher in December from 2016 to 2019.

On the right-hand side, the first chart shows the profit share in various customer categories as we can see, corporations have the highest share of profit, while consumers have the lowest. Small Business and House Office, on the other hand, have a comparable profit share.

On the second graph on right hand side bottom accompanying heat map also explains the product base margin and profit in several product categories. In the Technology category, the telephone and communication subcategory have the highest base margin and profit (500.4 and $307,708.94, respectively). In the office supplies category, pens and art materials had the lowest base margin and profit, with 325.5 and $7,057.18 respectively.

**4.  Summary and Conclusions**

**References:**

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**About the Dataset:**

In this project, we used two different types of datasets one is Walmart retail dataset and second one is US census data and then, we did union in tableau two connect these datasets for gaining more insights and recommendations.